

REMARKS

In the Office Action mailed September 10, 2003 (Paper No. 1), the Examiner rejected Claims 1-15 under 35 USC §102(b) as being anticipated by the Ali et al. reference and further rejected Claims 16-21 under 35 USC §103 as being unpatentable over the Ali et al. reference in view of the Chopra et al. reference. By this paper, the Applicant has amended Claims 1 and 16 to further highlight the subject matter that the Applicant regards as unique in light of the art of record and hereby requests reconsideration of the above-captioned application in light of the amendments and remarks contained herein. As an initial matter, the Applicant's attorney believed they scheduled a personal interview with the Examiner on November 13, 2003. However, the Applicant's attorney went to the Examiner's office at 10:00 a.m. and was unable to find the Examiner. The Applicant's attorney apologizes for any inconvenience incurred on the part of the Examiner.

With respect to the Office Action, after carefully reviewing the Ali and Chopra references, the Applicant notes that neither of these references, nor any combination thereof, disclose the concept of a monitoring system that will *in situ* detect the cleanliness of a pad following the cleaning process of a CMP pad. In particular, neither the Ali nor Chopra reference disclose a carriage that is suitable for moving the cleaning solution analyzing system such that the CMP pad can be analyzed in a manufacturing environment. In particular, the Ali reference discloses an experimental set-up in which the constituent components remaining on a pad following CMP process is detected. In this particular experimental process, the CMP pad is removed from the CMP machine and is positioned within a Fourier transform infrared spectrometer that is coupled with a plan microscope such that the contaminant remaining on the pad and the constituent components can be analyzed.

This particular process does not contemplate a cleaning solution analyzing system which can be used in conjunction with the CMP machine such that the cleanliness of the pad can be periodically analyzed following CMP of one or more devices. As such, there is no suggestion or motivation in Ali of mounting the analyzing system on a carriage as claimed by the Applicant.

The Examiner has also cited the Chopra et al. reference as teaching the concept of *in situ*-type analysis of CMP devices. However, after carefully reviewing the Chopra reference, the Applicant notes that the detection apparatus in Chopra is actually analyzing the degree of

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contaminants contained on a silicon wafer and not on the CMP pad (*See, e.g.*, Figure 1.) Hence, there is no teaching in Chopra of using an *in situ* light source and sensor for detecting the cleanliness of the CMP pad as Chopra is limited to detecting the presence of contaminants on the wafer itself. For these reasons, the Applicant believes that Claims 1 and 16 as amended are neither disclosed nor taught by the art of record.

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SUMMARY

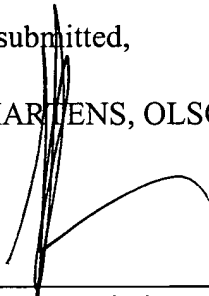
For the foregoing reasons, the Applicant believes that Claims 1 and 16 are allowable over the art of record. The Applicant further submits that the remaining claims define additional patentable subject matter and are further allowable due to their respective dependencies on Claims 1 and 16. Should there be any impediment to the prompt allowance of this application that could be resolved by a telephone conference, the Examiner is respectfully requested to call the undersigned at the number shown below.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 12/10/03

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